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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER	
XU, KEVIN K	
ART UNIT	**PAPER NUMBER**
2628	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/727,609	MATSUMOTO, KAZUYOSHI	
	Examiner	Art Unit	
	Kevin K. Xu	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/02/2006 have been fully considered but they are not persuasive. In particular applicant believes Park (2002/0136449) does not disclose or suggest "storing coordinate data of the pixel" in independent claim 23. Examiner respectfully disagrees. It should be noted that Park explicitly teaches an object position determination *unit* for ***determining a position*** of the object in the object extraction target image using pixel based color feature matching. (p. 1 paragraph 10) Furthermore Park explicitly teaches following determining a position of the object, performing matching between segment regions in the query image and segmented regions ***in the determined position*** of the object in the object extraction target image using color or texture features. (p. 1 paragraph 10) Consequently, Park teaches determining a position of the object in the target image (determining coordinate data) and using the determined position of the object in the a target image to perform matching with a query image and therefore, there must be storing of coordinate data in order to use the determined coordinate data for further analysis.

Regarding applicant's request of "particular findings" regarding examiner's assertion of obviousness for "an object information retaining section for retaining coordinate data" in claims 1-21, 22 and 24, examiner will supply a reference that explicitly teaches said claimed missing subject matter. (See Below)

It should be noted that the recitation of "storing a coordinate data of the pixel" in claim 23 is different than "retaining coordinate data of the pixel" in claims 1-21, 22 and 24 because claims 1-21, 22 and 24 require an object information retaining section.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 7 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park. (2002/0136449) in view of Howard (2003/0063093)

Regarding claim 1, Park teaches an object determination section for determining whether or not each pixel is part of an object to be extracted by comparing color information indicating a color of the pixel with a predetermined reference value for the object. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2) It should be noted that Park teaches performing matching between a pixel in the query image and a pixel in the object extraction target image. Additionally Park teaches an object information retaining section for retaining object information if the pixel has been determined by the object determination section to be a part of the object to be extracted. (p. 6 paragraph 70, Fig. 2) However, Park does not explicitly teach an object information retaining section retaining coordinate data of the pixel. This is what Howard teaches (p. 1 paragraph 7, p. 1 paragraph 9) **It should be noted that examiner has supplied a reference due to applicant's request for particular findings.** It should

be noted that Howard teaches determining x and y coordinate positions and subsequently storing said positions in an object information retaining section. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to utilize a feature of retaining coordinate data into the system of Park because pixel locations for object existing regions as a whole could be saved and thus, faster retrieval time can be achieved.

Consider claim 7, Park teaches an object inclusion relation determination section for determining whether a pixel of the input image data which has been determined by the object determination section to be part of an object to be extracted is a new object which has not been detected and generating coordinate data of the pixel. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2, p. 6 paragraph 70) It should be noted that Park teaches a final object region is determined when regions finally determined as a region of the object are determined as the object and values of pixels in final object regions are set to values of pixels in an original (new) image. (p. 6 paragraph 70) Furthermore, Park teaches wherein the object information retaining section retaining object information generated by the object inclusion relation determination section for each detected object. (p. 6 paragraph 70, Fig. 2) However, Park does not explicitly teach retaining coordinate data of the pixel. This is what Howard teaches (p. 1 paragraph 7, p. 1 paragraph 9) **It should be noted that examiner has supplied a reference due to applicant's request for particular findings.** It should be noted that Howard teaches determining x and y coordinate positions and subsequently storing said positions. It would have been obvious to one of

ordinary skill in the art at the present time the invention was made to utilize a feature of retaining coordinate data into the system of Park because pixel locations for object existing regions as a whole could be saved and thus, faster retrieval time can be achieved.

Consider claim 13, Park teaches an object information processing apparatus for obtaining object information from input image. (Fig. 1, p. 2 paragraph 24) Furthermore Park teaches an object determination section for determining whether or not each pixel is part of an object to be extracted by comparing color information indicating a color of the pixel with a predetermined reference value for the object. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2) It should be noted that Park teaches performing matching between a pixel in the query image and a pixel in the object extraction target image. Additionally Park teaches an object information retaining section for retaining object information if the pixel has been determined by the object determination section to be a part of the object to be extracted. (p. 6 paragraph 70, Fig. 2) However, Park does not explicitly teach retaining coordinate data of the pixel. This is what Howard teaches (p. 1 paragraph 7, p. 1 paragraph 9) **It should be noted that examiner has supplied a reference due to applicant's request for particular findings.** It should be noted that Howard teaches determining x and y coordinate positions and subsequently storing said positions. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to utilize a feature of retaining coordinate data into the system of Park because pixel locations for object existing regions as a whole could be saved and thus, faster retrieval time can be

achieved. Also Park teaches an image data output apparatus for outputting image data into the object information processing apparatus. (Fig. 1, p. 2 paragraph 26) It should be noted that the image data output apparatus as taught by Park is the image input unit 110. (Fig. 1) Lastly Park teaches a control apparatus for controlling the object information processing apparatus and the image data output apparatus. (Fig. 1, paragraph 24) It should be noted that in order for the object extraction apparatus to function as taught by Park, a control apparatus must be present for controlling the image input unit and an object position determination unit.

Consider claim 12, Park teaches wherein object information retaining section retains one frame of object information of an object which has been determined to be an object to be extracted. (p. 6 paragraph 73, p. 2 paragraph 26)

Regarding claim 14, Park teaches image data output apparatus is provided with an image pickup device for taking an object image and coordinate data of the object indicating a location of the object is coordinate data on the image pickup device. (p. 2 paragraph 26) It should be noted that the image query image as taught by Park is obtained by photographing the image using a video editor. (Fig. 2, p. 2 paragraph 26)

Consider claim 15, Park teaches wherein the control apparatus comprises a processing operation section for reading out object information stored in object information processing apparatus and performing a processing operation for recognizing an object contained in image data. (Fig. 1, p. 2 paragraph 26, p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2, p. 6 paragraph 70, p. 6 paragraph 72, p. 3 paragraph 31, p. 3 paragraph 37)

Regarding claim 16, Park teaches wherein processing operation section reads out the object information form the object information processing apparatus on a frame-by-frame basis. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2, p. 6 paragraph 70, p. 6 paragraph 72) It should be noted that Park teaches reading object information on an image-by-image basis and thus, frame-by-frame basis

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of in view of Howard (2003/0063093) in further view of Murao. (6728406)

Regarding claim 3, Park fails to explicitly teach converting UYVY value of input image data to HSV value. This is what Murao teaches. (Col 11 lines 6-41, Figs 14-15, Fig. 6) It should be noted that UYVY is a type of YUV format. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of converting YUV to HSV into the system of Park in order to compare the HSV value of each pixel output by the image data conversion section with predetermined reference value to determine whether or not the pixel is part of the object to be extracted because HSV color space is known as an optimum color space in conformity with the human senses (Col 7 lines 23-24) and thus, an improved perception of color can be realized.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Murao. (6728406)

Regarding claim 23, Park teaches outputting image data from an image data output apparatus to an object information processing apparatus. (Fig. 1, p. 2 paragraph 26) Furthermore Park teaches determining whether or not pixel is a part of the object to be extracted and storing coordinate data of the pixel, which has been determined to be a part of the object to be extracted as object information on an object-by-object basis. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2, p. 6 paragraph 70, p. 6 paragraph 72, p. 3 paragraph 31, p. 3 paragraph 37) It should be noted that Park teaches extraction of said data on a object-by-object basis by determining whether a region in the target image is a region of the object to be extracted and regions finally determined as a region of the object are determined as the object. Additionally Park teaches reading the object information stored in the object information processing apparatus using a processing operation section of a control apparatus on a frame-by-frame basis and recognizing an object contained in image data based on the object information. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2, p. 6 paragraph 70, p. 6 paragraph 72) It should be noted that Park teaches reading object information on an image-by-image basis and thus, frame-by-frame basis. However, Park does not explicitly teach converting UYVY value of input image data to HSV value. This is what Murao teaches. (Col 11 lines 6-41, Figs 14-15, Fig. 6) It should be noted that UYVY is a type of YUV format. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of converting YUV to HSV into the system of Park in order to compare the HSV value of each pixel with a reference value provide for an

object to be extracted because HSV color space is known as an optimum color space in conformity with the human senses (Col 7 lines 23-24) and thus, an improved perception of color can be realized.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093).

Regarding claim 8, Park does not explicitly teach object inclusion relation determination section generates four coordinate points: coordinates having maximum X, coordinates having minimum X, coordinates having maximum, Y, and coordinate having minimum Y, where coordinate of the object are (X, Y). However Park does teach a rectangular region having particular size determined based on size of the bounding box in the query image. Examiner takes official notice that rectangular bounding boxes have minimum and maximum coordinates. It would have obvious to one of ordinary skill in the art at the present time the invention was made to utilize minimum and maximum coordinates in a bounding box region of Park because a set minimum and maximum can be used to improve the efficiency of geometrical operations by using simple volumes to contain more complex objects for bounding volumes.

Regarding claim 9, Park does not explicitly teach the object inclusion relation determination section determines whether or not there is another pixel satisfying the same object condition, the other pixel is determined to be a part of the object and the coordinate data (X, Y) of the object is updated. However Park does teach *at least one* object position is determined (at least one object region) and the determined object target image then proceed to include object to be extract. (p. 3 paragraph 34, p. 4-5

paragraph 51) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to utilize updating object conditions for multiple object positions because object location information can be properly tracked in correspondence with a change and/or movement in location of said object.

Regarding claim 10, Park teaches wherein pixel of the input image appears which has been determined by the object determination section to be a part of an object to be extracted and object inclusion relation determination section determines that there is no pixel satisfying the same object condition, the pixel is determined to be apart of a newly deterred object and information about the pixel is stored in the object information retaining section corresponding to the newly detected object. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2, p. 6 paragraph 70) It should be noted that Park teaches a final object region is determined when regions finally determined as a region of the object are determined as the object and values of pixels in final object regions are set to values of pixels in an original (new) image. (p. 6 paragraph 70)

Regarding claim 11, Park does not explicitly teach a condition matching flag. Examiner takes official notice that flags are used as one or more bits to store a binary value or code that has an assigned meaning. It should be noted that Park teaches plural object conditions, a condition for template matching as well as a condition for region matching. (Fig. 2, p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to utlize a flag into the system of Park in order to

indicate which object condition is satisfied as part of the object information because a flag may provide the funcationality of representing one of several possible states or statuses and to indicate the intermediate or final state or outcome of different operations.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093) in further view of Kambayashi. (4841289)

Regarding claim 2, Park teaches a first to an nth comparison sections for determining whether or not the color information of each pixel of the input image satisfies a first to an nth object conditions, respectively (n: natural integer). (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2) It should be noted that Park teaches n= 2 comparison sections, template matching and region matching. However, Park does not explicitly teach an AND circuit. This is what Kambayashi teaches. (Col 3, lines 61-68 and Fig. 1). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of an AND circuit into the system of Park in order to receiving integer number of outputs of the first to the nth comparison sections because an AND circuit provides functionality such that all inputs of said circuit must be on or "logic high" for output to be on or "logic high" and thus, if only all input conditions, template matching and region matching conditions, hold true or "logic high" then the AND circuit would output a "logic high" to determine the final object region (Fig. 2) of Park.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093) in further view of Murao (6728406) and Lee (6828982).

Regarding claim 4, Murao teaches converting from YUV to HSV (as shown in rejection of claim 3). However neither Park nor Murao explicitly teaches separate conversion tables for each component of input value in converting to H, S, and V values. Nonetheless Lee teaches obtaining converting to R, G, and B from separate color lookup tables for YV, YUV and YU respectively. (Col 3-Col 4, line 65- line 6) Therefore it would have been obvious to one of ordinary skill in the art at the present time the invention was made to utilize the teachings of separate conversion tables for converting input values YUV into the system of Park with the color space conversion of Murao because normally color look-up talbes use two or three variable indexes, therby increasing memory capacity, and therefore in order to accomplish color model conversion with minimum memory capacity, it is necessary to properly adjust the numbers and sizes of color look-up tables. (Col 3 lines 28-40)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093) in further view of Sasaki. (6967660)

Regarding claim 5, Park does not explicitly teach a noise removal section for removing noise. This is what Sasaki teaches. (Col 4 line 60 –Col 5 line 32) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of a noise removal section as taught by Sasaki into the system of Park because the noise removal section provides the functionality of

freely setting a LUT conversion value that realizes removal of noise occurring in a low brightness region, reversion of a certain tone and the like by emphasizing or reducing brightness values within a certain area. (Col 5 lines 28-32)

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093) in further view of Sasaki (6967660) and Jeong. (5235650)

Consider claim 6, neither Park nor Sasaki explicitly teaches a noise removal section comprising a shift register section. This is what Jeong teaches (Col 5-6 line 56- line 2 and Fig. 6A). Furthemore Jeong teaches determining where or not a predetermined number or more of a plurality of results of the shift register section are equal to one another to determine whether or not plurality of results are noise. (Col 5-6 line 56- line 2 and Fig. 6A) It should be noted that plurality of results of the shift register as taught by Jeong are changed from "1" to "0" in memory so to remove noise. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of a shift register section into the system of Park with the noise removal section of Sasaki in order to determine whether or not plurality of results are noise because a shift register facilitates in providing noise eliminating process carried out for all pixels of character image of each individual character. (Col 6 lines 4-6)

Claims 17-21, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093) in further view of Kamei. (2001/0046309)

Claim 22 is similar in scope to claim 13 except for the recitation of a control apparatus for recognizing a behavior of the object based on the obtained object information. This is what Kamei teaches. (p. 1 paragraphs 9-10, p. 2 paragraph 21, p. 2-3 paragraph 37) It should be noted that the behavior of the object as taught by Kamei is determining the position and size of the moving object. It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of detecting movement (behavior) of an object of Kamei into the system of Park because precision tracking is achieved by performing a motion compensation on a preceding frame to compensate for movement of a background image of a detect moving object due to camera's tracking motion. (p.1 paragraph 8)

Regarding claim 17, Park does not explicitly teach comparing the object information between frames to detect movement of an object. This is what Kamei teaches. (p. 1 paragraphs 9-10, p. 2 paragraph 21, p. 2-3 paragraph 37). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of detecting movement of an object of Kamei into the system of Park in order to compare object movement between frames because precision tracking is achieved by performing a motion compensation on a preceding frame to compensate for movement of a background image of a detect moving object due to camera's tracking motion. (p.1 paragraph 8)

Consider claim 18, Kamei teaches recognizing that object is moving in a predetermined direction when coordinate data of the object is changed in the predetermined direction between each of plurality of consecutive frames. (p. 1

paragraphs 9-10, p. 2 paragraph 21, p. 2-3 paragraph 37). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of detecting movement of an object of Kamei into the system of Park in order to recognize that object is moving in a predetermined direction because precision tracking is achieved by performing a motion compensation on a preceding frame to compensate for movement of a background image of a detect moving object due to camera's tracking motion. (p.1 paragraph 8)

Regarding claims 19 and 20, Kamei teaches recognizing that the object is looming toward and/or moving away from a viewing site when a coordinate location of the object is not changed and a size of the object is expanding and/or shrinking between each of a plurality of consecutive frames in coordinate data of the object. (p. 1 paragraphs 9-10, p. 2 paragraph 21, p. 2-3 paragraph 37, p. 4 paragraphs 68-69, Figs 2-3) It should be noted that Kamei teaches a zooming feature, controlling zooming functions of the camera according to position of size of the moving object. (p. 1 paragraphs 9-10, p. 2-3 paragraph 37) It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of detecting movement of an object of Kamei into the system of Park in order to recognize object looming and/or moving away from a viewing site when size of the object is expanding and/or shrinking because precision tracking is achieved by performing a motion compensation on a preceding frame to compensate for movement of a background image of a detect moving object due to camera's tracking motion. (p.1 paragraph 8)

Regarding claim 21, Park teaches wherein when object has at least two colors, the control apparatus recognizes a behavior of the object. (p.1 paragraph 10, p.1 paragraph 11, p. 2 paragraph 27, p. 3 paragraph 34, Fig. 2) It should be noted that the behavior of the object as taught by Park is color value of each pixel in the object image and the color distance between query image and object target image as taught by Park encompasses 3 color components (R, G, B). However, Park does not explicitly teach object is moved between each of a plurality of consecutive frames. This is what Kamei teaches. (p. 1 paragraphs 9-10, p. 2 paragraph 21, p. 2-3 paragraph 37). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of detecting movement of an object of Kamei into the system of Park because precision tracking is achieved by performing a motion compensation on a preceding frame to compensate for movement of a background image of a detect moving object due to camera's tracking motion. (p.1 paragraph 8)

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (2002/0136449) in view of Howard (2003/0063093) in further view of Murao (6728406) and Kamei. (2001/0046309)

Regarding claim 24, neither Park nor Murao explicitly teaches comparing object information between each frame to detect movement of an object. This is what Kamei teaches (p. 1 paragraphs 9-10, p. 2 paragraph 21, p. 2-3 paragraph 37). It would have been obvious to one of ordinary skill in the art at the present time the invention was made to combine the teachings of detecting movement of an object of Kamei into the system of Park in order to compare object movement between frames because

precision tracking is achieved by performing a motion compensation on a preceding frame to compensate for movement of a background image of a detect moving object due to camera's tracking motion. (p.1 paragraph 8)

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from examiner should be directed to Kevin K Xu whose telephone number is 571-272-7747. The examiner can normally be reached on Monday-Friday from 9 AM – 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on (571)-272-7653.

Information regarding the status of an application may be obtained from Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EB) at 866-217-9197 (toll-free).

KX

Kevin Xu

11/16/06

MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600